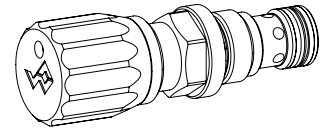


Throttle non-return cartridge

- ◆ $Q_{\max} = 25 \text{ l/min}$
- ◆ $Q_{N\max} = 25 \text{ l/min}$
- ◆ $p_{\max} = 350 \text{ bar}$

M18 x 1,5
ISO 7789

DESCRIPTION

Mechanically adjustable throttle valve in screw-in cartridge construction for cavity according to ISO 7789. The one-piece throttle non-return spool shifts into the completely open position with the volume flow direction 2 to 1. The opening pressure of the valve is 1 bar. With the volume flow direction from 1 to 2, the spool is pressed against the adjustment spindle and reduces the volume flow to the required extent via the throttle area, resp., throttle notch, milled laterally on the cone. When the adjustment spindle is screwed out, the throttle closes practically leakage-free from 1 to 2, because the hydraulic pressure and the spring press the throttle non-return spool into the closed position.

APPLICATION

Throttle non-return valves are used where the volume flow in the one direction via the spring loaded non-return valve has to be nearly free. In the opposite direction, the oil flows via the continuously adjustable, load depending throttle. The screw-in cartridge is perfectly suitable for installation in control blocks and is installed in sandwich plates (vertical stacked systems, corresponding data sheets in this register). For machining the cartridge cavity in steel and aluminum blocks, cavity tools are available (hire or purchase). Please refer to the data sheets in register 2.13.

SYMBOL

ACTUATION

Actuation	Adjustment spindle M8 x 1
Execution	S = blockable key adjustment D = blockable knob adjustment Optionally: K = lockable adjustment G = star handle adjustment → see Data sheet 2.0-50
Actuation angle	$\alpha_b = 1800^\circ$ (5 rotations)
Actuation stroke	$S_b = 5 \text{ mm}$

TYPE CODE

Throttle non-return valve			DR	<input type="checkbox"/>	PM18	-	<input type="checkbox"/>	-	<input type="checkbox"/>	#	<input type="checkbox"/>
Type of adjustment	Key	<input type="checkbox"/> S									
	Control knob	<input type="checkbox"/> D									
	Cover	<input type="checkbox"/> A									
Screw-in cartridge M18 x 1,5											
Nominal volume flow rate Q_N	3,2 l/min	<input type="checkbox"/> 3,2									
	25 l/min	<input type="checkbox"/> 25									
Sealing material	NBR	<input type="checkbox"/>									
	FKM (Viton)	<input type="checkbox"/> D1									
	NBR 872	<input type="checkbox"/> Z604									
Design index (subject to change)											

2.4-610

INSTALLATION NOTES

Mounting type	Screw-in cartridge M18 x 1,5
Mounting position	Any, preferably horizontal
Tightening torque	$M_D = 40 \text{ Nm}$ Screw-in cartridge

STANDARDS

Cartridge cavity	ISO 7789
Contamination efficiency	ISO 4406

GENERAL SPECIFICATIONS

Designation	Throttle non-return valve
Mounting	Screw-in cartridge construction
Nominal size	M18 x 1,5 according to ISO 7789
Ambient temperature	-25...+90 °C
Weight	0,09 kg key adjustment 0,10 kg control knob adjustment 0,16 kg cover
MTTFd	150 years

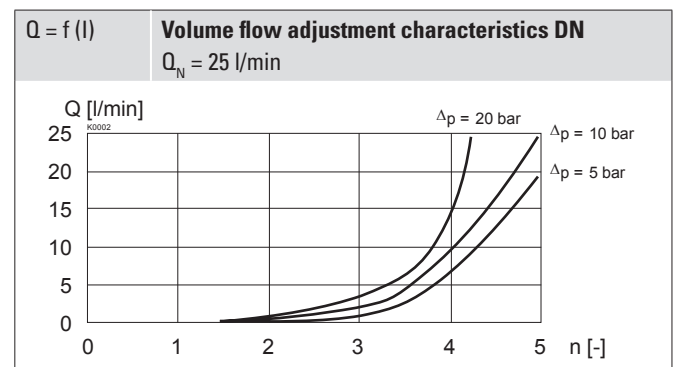
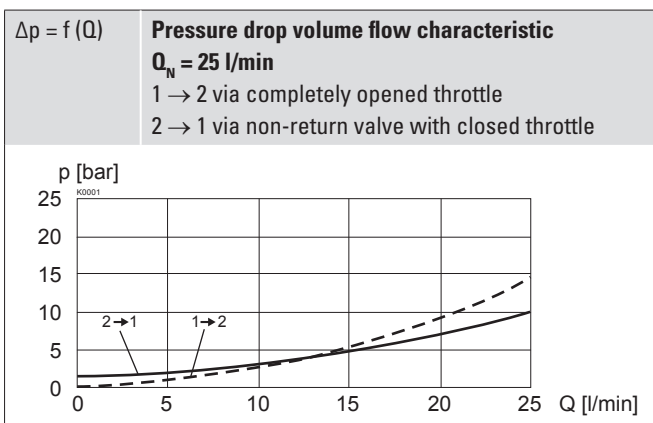
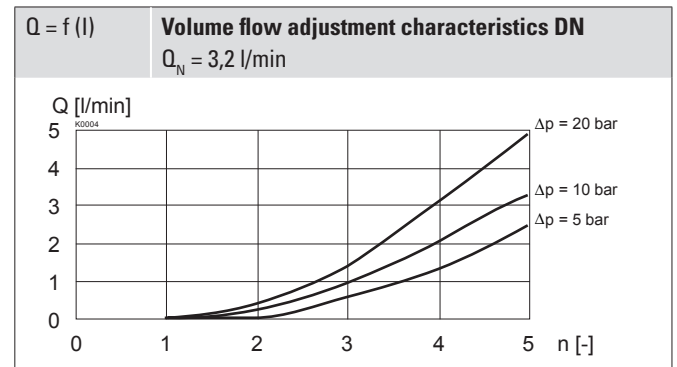
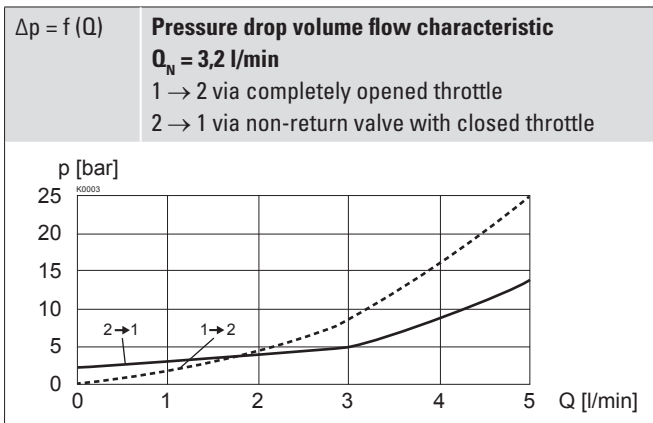
SEALING MATERIAL

NBR or FKM (Viton) as standard, choice in the type code

HYDRAULIC SPECIFICATIONS

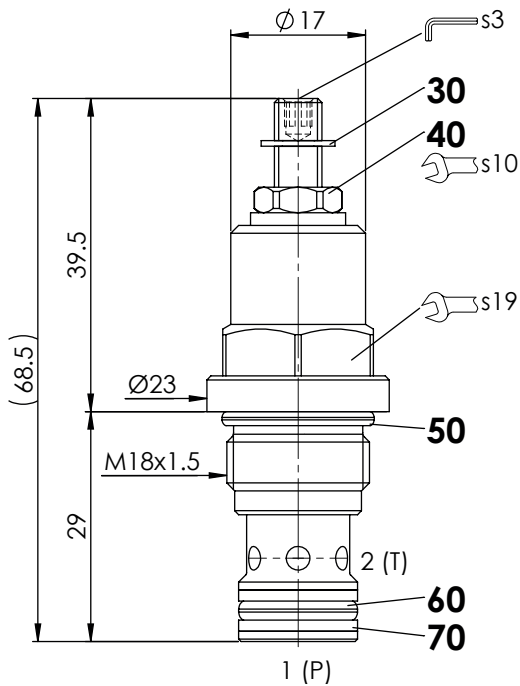
Working pressure	$p_{max} = 350 \text{ bar}$
Maximum volume flow	$Q_{max} = 25 \text{ l/min}$
Volume flow direction	1 → 2 adjustable flow 2 → 1 free flow
Nominal volume flow	$Q_N = 3,2; 25 \text{ l/min}$ at 10 bar valve pressure drop
Leakage oil	With closed throttle practically leakage-free
Fluid	Mineral oil, other fluid on request
Viscosity range	12 mm ² /s...320 mm ² /s
Temperature range fluid	NBR -25...+90 °C FKM (D1) -20...+90 °C NBR 872 (Z604) -40...+90 °C
Contamination efficiency	Classe 20 / 18 / 14...21 / 19 / 15
Filtration	Required filtration grade $\beta_{10...25} \geq 75$, see data sheet 1.0-50 / 2

PERFORMANCE SPECIFICATIONS

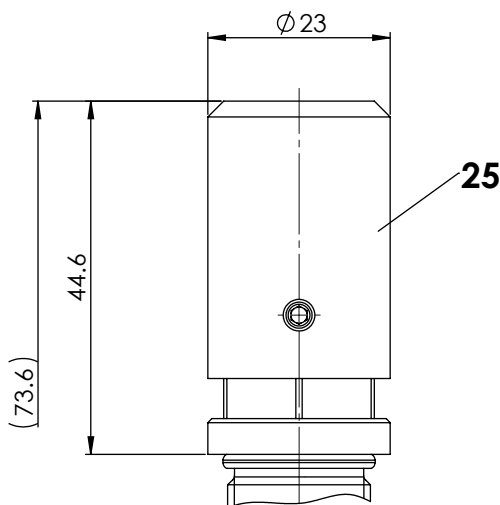
 Oil viscosity $\nu = 30 \text{ mm}^2/\text{s}$


DIMENSIONS

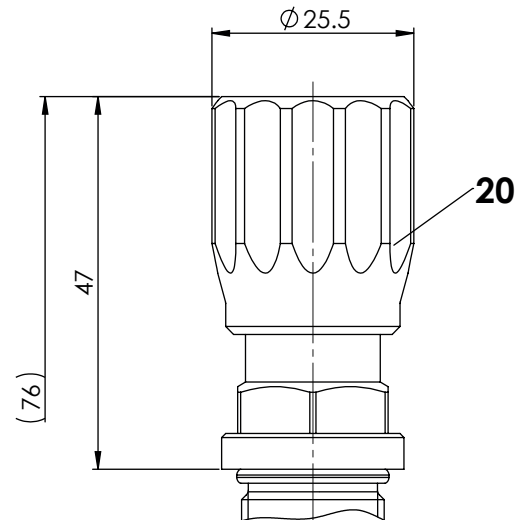
Key adjustment „S”



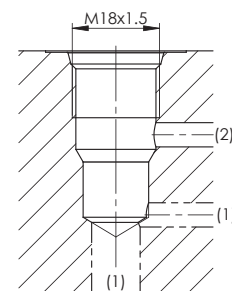
Cover „A”



Control knob adjustment „D”


HYDRAULIC CONNECTION

Cavity drawing according to ISO 7789-18-01-0-98


Note!


For detailed cavity drawing and cavity tools see data sheet 2.13-1002

PARTS LIST

Position	Article	Description
20	114.2299	Control knob
25	032.0611	Cover rd 23 / 3 x 35
30	193.1040	Retainer rd 4 DIN 6799
40	153.1302	Hexagon nut 0,5d M6 x 3,2
45	234.1060	Washer DIN 125A M6
50	160.2156	O-ring ID 15,60 x 1,78 (NBR)
	160.6156	O-ring ID 15,60 x 1,78 (FKM)
60	160.2111	O-ring ID 11,11 x 1,78 (NBR)
	160.6111	O-ring ID 11,11 x 1,78 (FKM)
70	049.3156	Backup ring rd 12,1 x 15 x 1,4

SURFACE TREATMENT

- ◆ The cartridge body made of steel is zinc-nickel coated
- ◆ The control knob is made of plastic

ACCESSORIES

Types of adjustment for screw-in cartridges	Data sheet 2.0-50
Flange body / sandwich plate NG3-Mini	Data sheet 2.4-800
Threaded body	Data sheet 2.9-205
Technical explanations	Data sheet 1.0-100
Filtration	Data sheet 1.0-50

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